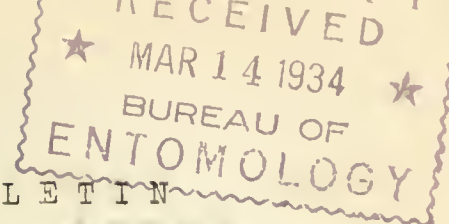


## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



# INSECT PEST SURVEY BULLETIN



Vol. 14

March 1, 1934

No. 1

## REPORTERS FOR THE INSECT PEST SURVEY, 1934

United States	The Entomologists of the Bureau of Entomology, U. S. Department of Agriculture
Alabama	Dr. J. M. Robinson, Alabama Polytechnic Institute, Auburn
Arizona	Mr. C. D. Lebert, P. O. Box 2006, Phoenix
Arkansas	Dr. W. J. Baerg, University of Arkansas, Fayetteville Mr. Dwight Isely, University of Arkansas, Fayetteville
California	Prof. E. O. Essig, University of California, Berkeley Dr. W. B. Herms, University of California, Berkeley Mr. Stewart Lockwood, Bureau of Plant Quarantine and Control, Department of Agriculture, Sacramento Mr. H. S. Smith, Citrus Experiment Station, Riverside Mr. Harold J. Ryan, County Agricultural Building, Los Angeles Mr. D. B. Mackie, Department of Agriculture, Sacramento Mr. M. L. Jones, Department of Agriculture, Sacramento Mr. G. S. Hensill, University of California, Berkeley Mr. A. E. Michelbacher, University of California, Berkeley Dr. A. W. Morrill, 815 Hill Street, Los Angeles Mr. L. M. Smith, Deciduous Fruit Field Station, Route 1, Box 232, San Jose Mr. F. H. Wymore, College of Agriculture, Davis
Colorado	Dr. C. P. Gillette, State Agricultural College, Fort Collins Dr. Geo. M. List, State Agricultural College, Fort Collins
Connecticut	Dr. W. E. Britton, Agricultural Experiment Station, New Haven Dr. E. P. Felt, Bartlett Research Laboratory, Stamford
Delaware	Dr. L. A. Stearns, Agricultural Experiment Station, Newark
Florida	Dr. Wilmon Newell, Agricultural Experiment Station, Gainesville Mr. J. R. Watson, Agricultural Experiment Station, Gainesville Dr. E. W. Berger, State Plant Board, Gainesville Dr. H. T. Fernald, 707 East Concord Avenue, Orlando

Georgia	Mr. M. S. Yeomans, State Board of Entomology, Atlanta Mr. C. H. Alden, State Board of Entomology, Cornelia Mr. W. H. Clarke, Peach Experiment Station, Thomaston Mr. J. B. Gill, Box 572, Albany
Idaho	Prof. Claude Wakeland, University of Idaho, Moscow Mr. R. W. Haegele, Entomological Field Station, Parma
Illinois	Mr. W. P. Flint, State Natural History Survey, Urbana Dr. T. H. Frison, State Natural History Survey, Urbana
Indiana	Prof. J. J. Davis, Purdue University, Lafayette
Iowa	Dr. Carl J. Drake, Iowa State College, Ames Mr. H. E. Jaques, Iowa Wesleyan College, Mt. Pleasant
Kansas	Prof. Geo. A. Dean, Kansas State Agricultural College, Manhattan Dr. H. B. Hungerford, University of Kansas, Lawrence Prof. H. R. Bryson, Kansas State Agricultural College, Manhattan
Kentucky	Prof. W. A. Price, University of Kentucky, Lexington
Louisiana	Dr. W. E. Hinds, Louisiana State University, Baton Rouge Dr. H. L. Dozier, 1519 N. White St., New Orleans
Maine	Dr. H. B. Peirson, State of Maine Forest Service, Augusta
Maryland	Dr. E. N. Cory, University of Maryland, College Park
Massachusetts	Mr. A. I. Bourne, Agricultural Experiment Station, Amherst
Michigan	Prof. R. H. Pettit, Michigan State College of Agriculture, East Lansing Mr. Ray Hutson, Michigan State College of Agriculture, East Lansing
Minnesota	Prof. A. G. Ruggles, University of Minnesota, University Farm, St. Paul Prof. A. A. Granovsky, University of Minnesota, University Farm, St. Paul
Mississippi	Mr. Clay Lyle, State Plant Board, State College
Missouri	Dr. L. Haseman, University of Missouri, Columbia
Montana	Dr. A. L. Strand, Montana State College, Bozeman
Nebraska	Prof. M. H. Swenk, University of Nebraska, Lincoln Mr. Don B. Whelan, University of Nebraska, Lincoln Mr. L. M. Gates, Department of Agriculture, Lincoln
Nevada	Mr. G. G. Schweis, P. O. Box 1027, Reno

New Hampshire	Mr. L. C. Glover, Agricultural Experiment Station, Durham
New Jersey	Dr. T. J. Headlee, University of New Jersey, New Brunswick Mr. Harry B. Weiss, Chief, Bureau of Statistics and Inspection, Department of Agriculture, Trenton
New Mexico	Dr. J. R. Eyer, College of Agriculture, State College
New York	Prof. C. R. Crosby, Cornell University, Ithaca Mr. P. J. Parrott, Agricultural Experiment Station, Geneva Dr. R. D. Glasgow, New York State Museum, Albany Mr. P. J. Chapman, Box 51, Vassar College, Poughkeepsie Prof. A. H. MacAndrews, Department of Forest Entomology, New York State College, Syracuse Mr. R. E. Horsey, Highland Park, Rochester
North Carolina	Dr. R. W. Leiby, Department of Agriculture, Raleigh Dr. Z. P. Metcalf, North Carolina State College, State College Station, Raleigh
North Dakota	Prof. J. A. Munro, North Dakota Agricultural College, State College Station, Fargo
Ohio	Prof. T. H. Parks, Ohio State University, Columbus Mr. J. S. Houser, Agricultural Experiment Station, Wooster Dr. Herbert Osborn, Ohio State University, Columbus Mr. E. W. Mendenhall, Ohio State Department of Agriculture, 97 Brighton Road, Columbus Mr. J. N. Knull, Ohio State University, Columbus
Oklahoma	Prof. C. E. Sanborn, Oklahoma Agricultural and Mechanical College, Stillwater Mr. C. F. Stiles, Oklahoma Agricultural and Mechanical College, Stillwater
Oregon	Dr. Don C. Mote, Oregon State Agricultural College, Corvallis
Pennsylvania	Dr. T. L. Guyton, Bureau of Plant Industry, Harrisburg Prof. H. E. Hodgkiss, Pennsylvania State College, State College Mr. A. B. Champlain, Bureau of Plant Industry, Harrisburg Mr. H. B. Kirk, Bureau of Plant Industry, Harrisburg Mr. J. R. Stear, c/o Koppers Experiment Farm, Ligonier Mr. C. A. Thomas, Pennsylvania State College, Kennett Square Mr. H. N. Worthley, Pennsylvania State College, State College
Rhode Island	Dr. A. E. Stene, State Department of Agriculture, Kingston
South Carolina	Prof. Franklin Sherman, Clemson College
South Dakota	Prof. H. C. Severin, South Dakota State College of Agriculture and Mechanic Arts, Brookings



Tennessee	Prof. G. M. Bentley, University of Tennessee, Knoxville
Texas	Dr. F. L. Thomas, Agricultural Experiment Station, College Station
Utah	Prof. G. F. Knowlton, Agricultural Experiment Station, Logan Prof. C. J. Sorenson, Agricultural Experiment Station, Logan
Vermont	Mr. H. L. Bailey, State Department of Agriculture, Montpelier
Virginia	Dr. W. J. Schoene, Virginia Agricultural Experiment Station, Blacksburg Dr. H. G. Walker, Virginia Truck Experiment Station, Norfolk Mr. C. R. Willey, Division of Plant Industry, 1112 State Office Building, Richmond
Washington	Mr. M. H. Hatch, University of Washington, Seattle Prof. R. L. Webster, State College of Washington, Pullman
West Virginia	Dr. L. M. Peairs, West Virginia University, Morgantown Prof. W. E. Rumsey, Agricultural Experiment Station, Morgantown
Wisconsin	Mr. E. L. Chambers, State Department of Agriculture, Madison Dr. C. L. Fluke, University of Wisconsin, Madison
Wyoming	Mr. C. L. Corkins, Office of State Entomologist, Powell
Puerto Rico	Mr. G. N. Wolcott, Insular Experiment Station, Rio Piedras
Hawaii	Mr. O. H. Swezey, Hawaiian Sugar Planters' Association, Honolulu
Mexico	Dr. Alfonso Dampf, Avenida Insurgentes 171, San Jacinto, Mexico, D. F.
Costa Rica	Dr. C. H. Ballou, Apartado 1368, San Jose
Brazil	Mr. E. J. Hambleton, Escola Superior de Agricultura Veterinaria, Estado de Minas Gerais, Vicosa
Egypt	Mr. A. H. Rosenfeld, Botanical and Plant Breeding Section, Ministry of Agriculture, El Giza

## THE MORE IMPORTANT RECORDS FOR JANUARY AND FEBRUARY, 1934

The month of February was marked by unprecedentedly cold weather in the East Central, New England, Middle Atlantic, and South Atlantic States, with abnormally warm weather in the West and Northwest.

Cutworm activity started during the latter half of February in the South Atlantic States. Eggs were observed in the Norfolk trucking section of Virginia, January 15. In Montana the army cutworm has been found actively feeding in winter wheat.

Reports from Nebraska indicate that the Hessian fly is quite generally infesting the wheat, infestations varying from less than 1 to over 4 puparia per stem.

The chinch bug situation has not materially changed since last fall. Infestations are generally heavy in the East Central and West Central States.

The green bug appeared during the third week of February in Oklahoma.

Winter survival of the sugarcane borer is reported high in Louisiana.

In the East Central and Western States winter mortality of the codling moth has been very low; in the Pacific Northwest it is reported as negligible. On the other hand, New York State reports very high mortality from winter killing.

The San Jose scale is reported as more prevalent in Illinois, Georgia, Idaho, and Mississippi, as compared with last year.

The mealy plum aphid is reported as more abundant in the prune orchards of the San Joaquin Valley of California than at any time during the past four years.

Dry weather during the early part of the winter is said to account for an unusually heavy infestation of the citrus rust mite in Florida.

The seed corn maggot is quite generally troublesome in Mississippi and parts of Texas.

The tomato pin worm has been found in a greenhouse near new Castle, in Lawrence County, Pa., in the extreme western part of the State.

The percentage of survival of the Mexican bean beetle is reported to have dropped materially in Ohio.

A heavy outbreak of the green peach aphid on spinach and cruciferous crops is reported from the Norfolk trucking section of Virginia.

The brown-tail moth has suffered rather high winter mortality in the northern part of New England.

A serious infestation of the southern pine beetle in Virginia has been materially reduced by very high mortality this winter.

## GENERAL FEEDERS

### GRASSHOPPERS (Acrididae)

Michigan. R. Hutson (February 20): Egg survival is great in regions affected last year.

Montana. A. L. Strand (February 19): Owing to the very mild winter over a large part of Montana, grasshoppers of the *Hippisci* group are especially active and large numbers of them are being sent in for identification. In spite of the relatively warm weather during the last two months, none of our economic species have hatched.

Arizona. C. D. Lebert (February 19): After one of the worst infestations ever known in this State (1933) one would expect to find egg masses with ease this spring. However, the reverse is true in the Salt River Valley. To date, very few eggs have been found. The eggs of Melanoplus differentialis Thos. are more prevalent. Those of M. mexicanus Sauss. are very scarce. Indications are that the poison campaign was very successful, or that there was a late second generation which did not oviposit, or that a general migration occurred. (I believe that a supplementary second generation occurred, and therefore few eggs were deposited.)

### CUTWORMS (Noctuidae)

Virginia. H. G. Walker (February 26): An egg mass of about 450 cutworm eggs was found on a spinach leaf in the field at Norfolk on January 15.

Montana. A. L. Strand. (February 19): The army cutworm, Chorizaagrotis auxiliaris Grote, has been received during the past month from several localities where it is active mostly in fields of winter wheat.

Utah. G. F. Knowlton (February 19): Cutworms are moderately abundant in northern Utah.

Arizona. C. D. Lebert (February 19): Several species of cutworms are moderately abundant in the Salt River Valley.

California. M. L. Jones (December 1933): Cutworms and other noctuids are reported as generally distributed in small numbers on celery.

### MONARCH BUTTERFLY (Danaus menippe Fab.)

Florida. H. T. Fernald (February 14): I have seen faded specimens of the monarch butterfly at intervals during this entire winter; quite a difference from the winter of 1932-33, when I saw none.

### WHITE GRUBS (Phyllophaga spp.)

Iowa. C. J. Drake. (February 19): White grubs are extremely abundant; thousands of acres of grass and other crops were destroyed in 1933.



Missouri. L. Haseman (February 20): Recent letters report serious damage to sod during the fall but local diggings at Columbia do not show many worms. In north-central Missouri we may have trouble.

Arizona. C. D. Lebert (February 19): White grubs are very numerous in soil of farming areas.

## CEREAL AND FORAGE - CROP INSECTS

### WHEAT

#### HESSIAN FLY (Phytophaga destructor Say)

Missouri. L. Haseman (February 20): The results of scouting for the Hessian fly last fall indicate that we will probably not have any serious trouble this year.

Nebraska. M. H. Swenk (January 1 to February 15): The new wheat crop shows a varying infestation, judging from samples sent in by correspondents during the period here covered, the variation running from 42 percent to 100 percent of the stems infested and the infestation varying from 0.6 puparium per stem in a Hall County field to 4 puparia per stem in a Nuckolls County field.

#### CHINCH BUG (Blissus leucopterus Say)

Illinois. W. P. Flint (February 19): Weather conditions have been ideal for chinch bug hibernation, with a very high survival in the central part of the State. No extensive counts have been made as yet.

Iowa. C. J. Drake (February 19): The chinch bug is very common throughout the State.

Iowa. H. E. Jaques (February 24): Southeastern Iowa is thickly sprinkled with chinch bugs. They are more abundant than they have been for many years, and our very open winter has made it easy for them.

Missouri. L. Haseman (February 20): Much winter burning has been done, but the mild winter has favored the pest. Unless there is heavy spring and summer rainfall, the chinch bug situation will be serious. Clump-grass was burned February 17, with slow back fire; one clump examined February 20, showed 54 live bugs and 4 dead remains; within 25 feet of the burned clump an unburned one of like size showed 244 live and 19 dead. In addition to an apparently large kill by burning, these figures indicate approximately 8 percent winter mortality. If the difference in count of the two clumps is due to burning, it indicates a greater percent of kill by burning than we usually estimate.

Nebraska. M. H. Swenk (January 1 to February 15): Among the cereal pests, the chinch bug was the subject of the most frequent inquiries. During the second week in February a considerable amount of winter burning was resorted to in southeastern Nebraska, where the insect is very abundant.

GREEN BUG (Toxoptera graminum Rond.)

Oklahoma. C. F. Stiles (February 24): Green bugs have made their appearance in Kingfisher and Alfalfa Counties. Parasites have increased rapidly in the infested fields, and unless weather conditions are unfavorable for the development of parasites we do not expect severe damage.

CORN

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Alabama. J. M. Robinson (February 21): Larvae of the lesser corn stalk borer were moderately abundant in cornstalks at Hartford, January 8.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

Alabama. J. M. Robinson (February 21): Larvae were moderately abundant in cornstalks at Hartford, January 8.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Colorado. G. M. List (February 20): The alfalfa weevil is scarce to moderately abundant in infested counties.

California. A. E. Michelbacher (February 19): Owing to the mild weather this insect has remained more or less active during the entire winter. In the Tracy area, by the 8th of December, both the larvae and adults were hard to collect. On the 12th of February the highest weevil population encountered was in a field near Vernalis, where an average of 8 larvae and 7 adults were collected per 100 sweeps. In all the other fields examined the count per 100 sweeps never exceeded one or two individuals, and in some none were collected. Weevils were, however, found from one end of the district to the other.

In the region about Pleasanton the larvae could be collected throughout the entire winter in fields where there was a slight growth of alfalfa. They were never taken in large numbers, and the counts were usually less than 3 to 100 sweeps. The highest number taken per 100 sweeps on February 12 was 12 larvae and 5 adults.

In the most heavily infested fields in the Niles territory the weevil could be collected with ease at any time during the winter, 10 to 15 larvae usually being taken to 100 sweeps. As early as the first of the year one count was made where 50 larvae were collected to 100 sweeps. By the middle of January it was not uncommon to collect 25 larvae to 100 sweeps, and during the early part of February counts of over 100 were made. In one field, on the 9th of February, an average of 247 larvae and 18 adults were found to 100 sweeps. The count in this field is the highest that has come to our attention, and a survey of the district at that time showed the counts in most fields to be less than 50 larvae to 100 sweeps.

Observations of the weevil activity in field cages at Pleasanton and Niles showed that the weevil oviposited rather freely in alfalfa stems during the entire winter at Niles, and to a lesser extent at Pleasanton. As things look now it is expected that the alfalfa weevil will do little or no damage to the alfalfa crop this season.

ALFALFA CATERPILLAR (Eurymus eurytheme Bdv.)

Arizona. C. D. Lebert (February 19): An adult was noticed February 16.

California. A. E. Michelbacher (February 19): During the past month a few larvae of the alfalfa butterfly were collected.

PEA APHID (Illinoia pisi Kalt.)

Oregon. D. C. Mote (February 23): The pea aphid was found on peas near Barlow, February 13.

L. P. Rockwood (March 1): This aphid had attained a considerable population in some early fall seeded vetch and pea fields by early February. Meteorological conditions of the fall and winter of 1933-34 parallel rather closely those of 1917-18 which preceded the worst outbreak in the Pacific Northwest within recent years. It is feared that there may be fewer predators than usual as field crop aphids were unusually scarce in the season of 1933. We know that there are fewer coccinellid beetles than usual in their winter cache on Bald Peak in the Chehalem Mountains. The only natural enemies observed as yet in the fields are spiders and the fungous disease Empusa aphidis Hoffman.

California. A. E. Michelbacher (February 19): The pea aphid was collected in the alfalfa fields during the past month; it is becoming quite abundant in some fields at the present time.

GRASS

CRANE FLIES (Tipula spp.)

Kentucky. W. A. Price (February 23): Crane fly larvae appeared in masses in an orchard that was heavily mulched, at Farmers.

Louisiana. W. E. Hinds (February 20): Crane flies (undetermined) have been moderately abundant for the past few weeks at Baton Rouge.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana. W. E. Hinds (February 20): In the examinations made in the vicinity of Baton Rouge, the survival of the sugarcane borer is high.



SUGARCANE ROOTSTOCK WEEVIL (Anacentrinus subnudus Buchanan)

Louisiana. W. E. Hinds (February 20): All stages except the egg have been found all winter at Baton Rouge and Plaquemine. Eggs may have been present but were never found.

F R U I T I N S E C T S

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York. P. J. Parrott (February 23): In some sections of western New York large numbers of hibernating larvae have been killed by low temperatures.

Illinois. W. P. Flint (February 19): Over the southern half of Illinois winter weather has been unseasonably mild to date, and codling moth larvae have suffered very little winter injury. Larvae kept alive outdoors at Urbana show a higher percentage alive at this time than for several years.

Missouri. L. Haseman (February 20): Recent checks at Columbia show only 7.6 percent mortality of larvae in our breeding cages.

Colorado. G. M. List (February 20): The codling moth is very abundant, and winter mortality is very low.

Idaho. R. W. Haegele (February 21): Winter mortality is negligible in southwestern Idaho. There is an enormous carry-over of worms from 1933 and a heavy infestation is expected for this year.  
C. Wakeland (February 20): We have had no winter to date, consequently a high survival is expected. Temperature has not reached zero in most parts of Idaho. Perennials have blossomed all winter. Mortality of the codling moth should be the lowest in the last 12 years.

California. M. L. Jones (February 7): The codling moth was reported as causing slight damage locally on pears in Yolo County during December 1933.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Colorado. G. M. List (February 20): Fruit tree leaf rollers are scarce.

Utah. G. F. Knowlton (February 19): Eggs are abundant in Utah County and moderately abundant in northern Utah.

APHIDS (Aphidae)

New Jersey. R. C. Burdette, B. F. Driggers, and C. C. Hamilton (February 26): Eggs of green aphids (Aphis pomi DeG.) and rosy aphids (Anuraphis roseus Baker) are moderately abundant.

Kentucky. W. A. Price (February 23): Aphid eggs are very abundant in orchards generally over the State.

Idaho. C. Wakeland (February 20): Orchard aphids are reported by fruit growers as being already hatched.

Utah. G. F. Knowlton (February 19): Fruit aphid eggs are moderately abundant in northern Utah.

#### SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia. O. I. Snapp (February 21): The San Jose scale is now very much more abundant on peach trees than usual at Fort Valley. The percentage of live scales at the present time is a little lower than usual, which no doubt is due to low temperatures. A minimum of 14.4° F. was recorded on January 30. There have been three cold spells during the winter. Of 4,100 scales examined on February 17 and 19, 3,301 were found to be alive. C. H. Alden (February 21): Some crawlers have been observed this winter at Cornelia. There are none at this date, probably on account of the cold spell.

Kentucky. W. A. Price (February 23): There has been a marked decrease in the numbers of the San Jose scale over last year.

Michigan. R. Hutson (February 23): The San Jose scale is moderately abundant; reported from as far north as Shelby and Hart.

Wisconsin. E. L. Chambers (February 19): The small percentage of the San Jose scale that survived the winter of 1932-33 developed rapidly during the summer and, aided by a long growing season, established quite severe infestations on many trees and shrubs in the several counties in Wisconsin where this pest now exists.

Mississippi. C. Lyle and assistants (February): The San Jose scale is very abundant in Lee, Hinds, Bolivar, and Washington Counties. Some trees have been killed. Crawlers were noticed until the cold wave of the week of December 25.

Idaho. R. W. Haegele (February 21): Winter mortality is negligible in southwestern Idaho. The scale showed increase during 1933.

#### APPLE MAGGOT (Rhagoletis pomonella Walsh)

Nebraska. M. H. Swenk (February 15): During the last week in January we received from Burt County several specimens of apples showing heavy injury by the apple maggot.

#### PEACH

#### LESSER PEACH BORER (Aegeria pictipes G. & R.)

Mississippi. J. Milton (February 19): The lesser peach tree borer was injuring trees rather badly in a small home orchard near Florence, Rankin County, in December.



PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia. C. H. Alden (February 21): The plum curculio is still in hibernation at Cornelia.

PLUM

MEALY PLUM APHID (Hyalopterus arundinis Fab.)

California. L. M. Smith (February 23): The mealy plum aphid, H. pruni (Geoffroy), is unusually abundant in prune orchards in San Joaquin County. There are more eggs present on the trees than there have been in the past 4 years.

RASPBERRY

ROSE SCALE (Aulacaspis rosae Bouche)

Nebraska. M. H. Swenk (February 15): During the second week in February a Richardson County correspondent sent in some raspberry canes heavily infested with the rose scale.

GRAPE

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Mississippi. C. Lyle (February 21): Complaints of injury to grape and Scuppernong vines, which was evidently caused by the grape cane borer, were received from Waynesboro, Wayne County, and Philadelphia, Neshoba County, a few weeks ago.

CITRUS

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Florida. J. R. Watson (February 26): The Florida red scale is moderately abundant.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

California. M. L. Jones (February 7): The red scale was causing medium damage generally in citrus throughout Orange County during November and December 1933. Infestation by the red scale is reported as slight on 16 acres of citrus locally and as medium locally on citrus throughout Santa Barbara County. It is reported as medium generally on citrus in San Diego County.

BLACK SCALE (Saissetia oleae Bern.)

California. M. L. Jones (February 7): The Commissioner reports the black scale as causing medium damage generally in citrus throughout Orange County during November and December 1933. He notes that parasitism continues with much better results than was expected during the early part of the season. In San Diego County the damage by the black scale was slight generally on lemons during December 1933.

PURPLE SCALE (Lepidosaphes beckii Newm.)

California. M. L. Jones (February 7): Reported as causing medium damage in citrus throughout Orange County and severe damage locally on citrus throughout Santa Barbara County during November and December 1933.

CITRICOLA SCALE (Coccus pseudomagnoliarum Kkw.)

California. M. L. Jones (January 17): The citricola scale was reported as causing medium damage to 39,000 acres of citrus generally in Tulare County during December 1933.

ITALIAN PEAR SCALE (Diaspis pyricola Del G.)

California. M. L. Jones (February 7): In Sonoma County the Italian pear scale was causing severe damage to 3,000 acres of prune, apple, and pear trees locally during December 1933. The Napa County correspondent reports the brown apricot scale, Lecanium corni Bouche, and the Italian pear scale as causing medium damage to 15,000 acres of prunes generally during December. He notes that there has been a decided increase in the amount of spray material used throughout the county on these two pests, owing to a good price for the crop for the past year. He estimates that approximately 25 percent of the orchards in the county will be sprayed in 1934.

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

Florida. J. R. Watson (February 26): The citrus whitefly is moderately abundant.

Mississippi. G. I. Worthington (February 18): Slight infestation by the whitefly was noticed on gardenia at Cleveland in January.

Alabama. J. M. Robinson (February 21): The whitefly is moderately abundant at Audalusia on gardenia.

BLACK CITRUS APHID (Toxoptera aurantiae Boyer)

California. M. L. Jones (February 7): The black citrus aphid was common on citrus in Orange County in November and caused slight damage generally to citrus in December 1933.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. J. R. Watson (February 26): The dry weather of the first part of the winter was responsible for an unusually heavy infestation of rust mites; at the same time it checked nearly all growth on young trees in the central part of the State, with the result that the green citrus aphid (Aphis spiraecola Patch) is rather scarce at the present time.

CITRUS RED SPIDER (Paratetranychus citri McG.)

California. M. L. Jones (February 7): Damage by the citrus red spider was general on citrus in November and medium locally on citrus in December 1933 in Orange County. Reported as severe on 39 acres of citrus locally in Santa Barbara County. The red spider, with the red scale (Chrysomphalus aurantii), was scarce on 16 acres of citrus locally during December in Santa Barbara County. In San Diego County the citrus red spider was scarce generally on lemons during December.

COMMON RED SPIDER (Tetranychus telarius L.)

Mississippi. C. Lyle (February 24): J. P. Kislanko reported that he had observed heavy red spider infestation on Satsuma trees.

AVOCADO

A TORTRICID (Amorbia essigana Busck)

California. M. L. Jones (January 17): The avocado tortrix is reported as causing damage generally on avocados in San Diego County.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

California. M. L. Jones (February 7): Fuller's rose weevil (Pantomorus godmani) was reported as causing severe damage generally on citrus, avocados, and ornamentals in Santa Barbara County during December; also reported as doing slight damage locally on citrus and ornamentals in San Diego County.

LATANIA SCALE (Aspidiotus lataniae Sign.)

California. M. L. Jones (February 7): The latania scale was reported as causing slight damage locally on avocados in San Diego County during December 1933.

PAPAYA

PAPAYA FRUIT FLY (Toxotrypana curvicauda Gerst.)

Florida. H. T. Fernald (February 14): The papaya fruit fly is doing considerable damage at Orlando to the fruit of the papaya. I have seen it reported from near Miami.

A SPHINGID (Erinnyis alope Drury)

Florida. J. R. Watson (December 9, 1933): This sphynx is very abundant on a plantation of papayas at Lake Alfred.



TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Alabama. J. M. Robinson (February 21): The vegetable weevil was moderately abundant on turnip tops at Auburn in December 1933; at Flamton, January 23; at Vinegar Bend, January 15; and on turnip tops and bulbs at McKenzie, February 17.

Mississippi. C. Lyle (February 21): Thus far the vegetable weevil has attracted less attention than during the past three or four years. Specimens of the larvae or complaints of their injury have been received from Florence in Rankin County, Lauderdale in Lauderdale County, Tyler-town in Walthall County, and Bude in Franklin County. The first specimens to be received at this office during the present season were collected on January 25 at Lauderdale. (February 24): J. P. Kislanko indicated that the weevil had caused severe damage to turnips in Jones and Stone Counties and some injury in Forrest County.

California. M. L. Jones (December 1933): The Humboldt County Commissioner reports the vegetable weevil as causing slight damage on vegetables in a field of approximately one half acre. The insect is established in this county in a very limited area. The known infestation is within an area of two or three acres. Inasmuch as the infestation is confined to this small area, an eradication program is being attempted.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Virginia. H. G. Walker (February 26): The 12-spotted cucumber beetles were active in fields of kale and spinach in the Norfolk area on January 25.

Florida. J. R. Watson (February 26): The spotted cucumber beetle is moderately abundant.

Alabama. J. M. Robinson (January 29): The spotted cucumber beetle is moderately abundant on beans at Irvington and Auburn.

Louisiana. W. E. Hinds (February 20): A few spotted cucumber beetles are out at Baton Rouge.

Texas. F. L. Thomas (February 21): The spotted cucumber beetle is present in a half acre of English peas at Sugarland, but it is not as abundant as D. balteata Lec.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Louisiana. W. E. Hinds (February 20): The striped cucumber beetle is very abundant on late English peas at Baton Rouge.

Alabama. J. M. Robinson (February 21): The striped cucumber beetle is scarce at Auburn.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon. D. C. Mote (February 23): Adults have showed up in clover fields near Corvallis.

California. A. E. Michelbacher (February 19): This beetle has been present in fair numbers all winter.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Mississippi. C. Lyle (February 21): The seed corn maggot has attracted the attention of early gardeners at various places. Injury to seeds and young plants in gardens was reported from Bogue Chitto in Lincoln County on January 9, injury to cabbage at Star in Rankin County and Edwards in Hinds County was reported on January 25, and a grower at Pascagoula in Jackson County reported severe injury to young English pea plants on February 3.

Texas. F. L. Thomas (February 21): The seed corn maggot is at present causing slight injury to spinach at Dickinson, Galveston County, and Winterhaven, Dimmit County.

SAY'S STINK BUG (Chlorochroa sayi Stal)

California. A. E. Michelbacher (February 19): Say's plant bug has been present in fair numbers all winter.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Louisiana. W. E. Hinds (February 21): A pair was observed mating at Baton Rouge.

FLOWER THRIPS (Frankliniella tritici Fitch)

Mississippi. M. M. High (January 2): The wheat or grass thrips was found very abundant attacking cucumber and beans, and less numerous on tomato in Gulfport greenhouses. The writer has never before found this thrips so abundant on cucumber. The injury was severe only in one house where adults and larvae were numerous.

A MOLE CRICKET (Gryllotalpa sp.)

Alabama. J. M. Robinson (February 16): Mole crickets are moderately abundant in vegetable gardens at Brundidge.

TOMATO

TOMATO PIN WORM (Gnorimoschema lycopersicella Busck)

Pennsylvania. C. A. Thomas (February 21): Dr. Guyton's inspectors found the tomato pin worm near New Castle, Lawrence County, which is not far from the Ohio border.

Correction: The note on G. lycopersicella Busck, in the Summary for 1933, p. 335, Insect Pest Survey Bulletin, should be "southeastern Pennsylvania" instead of "northeastern" in the second line.



BEAN

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Ohio. N. F. Howard (February 16): The percentage of survival of overwintering Mexican bean beetles dropped considerably between January 16 and January 31. The intervening cold wave, when temperatures fell below zero, was at least partly responsible for this increase in mortality.

PEAS

BANDED CUCUMBER BEETLES (Diabrotica balteata Lec.)

Texas. F. L. Thomas (February 17): This beetle is moderately abundant in a half acre of English peas at Sugarland.

CABBAGE

CABBAGE APHID (Brevicoryne brassicae L.)

Mississippi. C. Lyle (January 1): Cabbage and turnips at Bude, Franklin County, were reported as moderately infested with plant lice.

G. I. Worthington (February 18): The cabbage aphid has been general throughout the winter on turnips, collards, and cabbage in Sunflower, Bolivar, Washington, and Coahoma Counties.

Louisiana. W. E. Hinds (February 20): The cabbage aphids are fairly abundant on the older cabbage.

CABBAGE WEBWORM (Hellula undalis Fab.)

Alabama. J. M. Robinson (February 21): On October 2, 1933, the turnip webworm was reported moderately abundant on turnips at Gadsden and Auburn. On turnips and collards at Dadeville.

Mississippi. C. Lyle (February 21): Rape was rather heavily infested at Sessums, Oktibbeha County, in November 1933.

CUCUMBERS

MELON APHID (Aphis gossypii Glov.)

Mississippi. M. M. High (January 2): The melon aphid was found fairly abundant on cucumbers, from about mature plantings to plants only a few inches high. In places, both old and young cucumbers were seriously injured.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Louisiana. W. E. Hinds (February 22): Onion thrips were observed killing onion seedlings in large spots in seed beds at Angola in January and at Opelousas on February 22.

SPINACH

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia. H. G. Walker (February 26): A very heavy outbreak of the spinach aphid occurred on spinach, kale, and collards at Norfolk, beginning about December 15, 1933, causing serious injury until about the 10th to the 15th of January 1934. Diseased and dead aphids were present in the field almost from the beginning of the outbreak, but the fungous disease did not begin to be effective until about January 9, and then, in a period of 5 or 6 days, it killed at least 95 percent of the aphids in the Norfolk trucking area.

PEPPER

A WEEVIL (Euxenodes sp.)

Florida. J. R. Watson (November 24, 1933): Weevils were heavily infesting peppers in Dade County at Miami. (Determined by L. L. Buchanan, who says: "This tropical or subtropical genus has not been reported from the United States heretofore. The Florida specimens are very close to and probably identical with an unidentified Cuban species in the National Museum collection. A related species from Central America is labeled as having been in stem of pepper plant, and also 'from eggplant'.")

Florida. F. S. Chamberlin (January 31): This weevil, reported as causing injury to peppers in Dade County the past season, could be found in only one small pepper patch this month.

STRAWBERRY

STRAWBERRY MITE (Tarsonemus fragariae Zimm.)

California. L. M. Smith (February 23): The strawberry mite has been unusually abundant in the Watsonville, Santa Cruz, and San Jose districts of California. The winter has been abnormally warm and the mite did not go into hibernation, but continued to breed and lay eggs throughout the winter.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Idaho. R. W. Haegele (February 21): The beet leafhopper is scarce in southwestern Idaho. Mild winter and good hibernating conditions resulted in early spring populations about the same as last fall. The populations, however, are very small.

Utah. G. F. Knowlton (February 19): Beet leafhoppers are scarce to moderately abundant in northern Utah.

FOREST AND SHADE - TREE INSECTS

GYPSY MOTH (Porthetria dispar L.)

Massachusetts. Monthly Letter Bur. Ent., No. 236 (January): C. W. Collins, of the Melrose Highlands field laboratory, reports that the unusually cold weather that prevailed in New England from December 28 to December 30, inclusive, was undoubtedly fatal to eggs of the gypsy moth in sections of the infested territory where they were in exposed situations, unprotected by snow, ice, or other material. J. N. Summers has stated that an exposure of between  $-20^{\circ}$  and  $-25^{\circ}$  F. is necessary to kill entire egg clusters of the gypsy moth, although some eggs in each cluster may be killed by an exposure to  $-15^{\circ}$ .

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

Vermont. Div. of Forest Insects, Bur. Ent. (February 23): An examination of 40 hibernating webs of the brown-tail moth collected in four separate localities in Vermont in early February showed a total mortality of the hibernating larvae in all but one web taken at Ryegate. It is believed that this single web, which contained 230 living and 9 dead larvae, was protected by snow or otherwise during the cold weather.

Massachusetts. Monthly Letter Bur. Ent., No. 236 (January): There probably was some mortality of the small brown-tail moth caterpillars in their winter webs. Records of experiments and observations indicate that the caterpillars of the brown-tail moth in their winter nests can withstand slightly lower temperatures than can gypsy moth eggs. Records furnished by the Boston office of the Weather Bureau show that temperatures of  $-20^{\circ}$  F. and below occurred in December at certain points throughout the territory generally infested.

Virginia. H. G. Walker (February 26): Winter webs were more plentiful in the State than at any time since 1915. Nests were found in all towns bordering the Connecticut River from Barnet south to Massachusetts and in two adjoining towns to the west. Approximately 1,100 nests were taken in a control project covering these towns. Indications point to a high percentage of mortality among the hibernating larvae.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Massachusetts. Div. of Forest Insects, Bur. Ent. (February 23): In the Boston infestation of the European pine shoot moth two lots of 100 infested pine shoots each, collected in two different localities, showed a survival of only 1 percent.

SPRING CANKER WORM (Paleacrita vernata Peck)

Missouri. A. F. Satterthwait (February 12): Male moths are unusually noticeable the last week of January and the first week of February. Thus far this year none have been observed or reported. L. Haseman (February 20): Male moths were on the wing in great numbers during the night of February 16 at Columbia, but two days later a light blizzard struck which has not been so good for them.



FALL CANKER WORM (Alsophila pometaria Harr.)

Connecticut and New York. E. P. Felt (March 1): Eggs were deposited in extraordinarily large numbers last fall in southwestern Connecticut, southeastern New York and western Long Island in particular, and the probabilities are that the outbreak may approach in magnitude the almost unprecedented one of last year.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

Virginia and Pennsylvania. Div. of Forest Insects, Bur. Ent. (February 16): Four days of unusually cold weather in the last week in December resulted in a mortality of from 70 to 90 percent of the brood of the southern pine beetle in a concentrated infestation near Fairfax, Va. The brood in all of the trees was killed, except in the thicker barked portions of the larger trees. It is very likely that the later cold period of the last two weeks has resulted in added mortality. As the eggs are considerably more resistant to cold than any other stage, it is feared that a safe mortality has not yet occurred. The infestation, which during the recent mild seasons has extended up through Virginia well into Pennsylvania, has received a very decided setback by low temperatures, as a very large percentage of the overwintering forms have been killed by the cold in northern Virginia.

ASH

CARPENTER WORM (Prionoxystus robiniae Peck)

Nebraska. M. H. Swenk (February 15): A report of a considerable infestation of ash trees in Nuckolls County was received early in January.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Colorado. G. M. List (February 20): The European elm scale has increased during the last year or two, and the open winter has not caused a very high mortality; so we expect it to be more injurious than usual.

LOCUST

A NOTODONTID (Dasylophia anguina A. & S.)

Alabama. J. M. Robinson (February 21): D. anguina reported moderately abundant at Oak Hill on October 14, 1933. (A notodontid moth known to feed on locust and other legumes. J. A. H.)

MAPLE

GLOOMY SCALE (Chrysomphalus tenebricosus Comst.)

North Carolina. Z. P. Metcalf (February 19): The gloomy scale on maples is more abundant than for the past few years. A few specimens are parasitized.

OAK

CALIFORNIA OAK WORM (Phryganidia californica Pack.)

California. M. L. Jones (February 7): The California oak moth is reported as scarce on oaks locally in San Diego County.

PINE

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Colorado. G. M. List (February 20): Many more reports than usual of the pine leaf scale are being received. These come from practically all sections of the State. There has been a very marked increase of this insect the last two seasons.

A PINE SAWYER (Monochamus spp.)

Alabama. J. M. Robinson (January 5): Pine sawyers are very abundant at Blount Springs.

WILLOW

SCALE INSECTS (Chionaspis spp.)

Nebraska. M. H. Swenk (February 15): Reports were received from Garden County late in January that the black willows in that region were severely infested with a scale insect; from the description it was evidently either Chionaspis ortholobis Comst. or C. salicis-nigrae Walsh.

I N S E C T S   A F F E C T I N G   G R E E N H O U S E

A N D   O R N A M E N T A L   P L A N T S

BEEF ARMYWORM (Laphygma exigua Hbn.)

Mississippi. C. Lyle (February 24): On February 21 J. P. Kislanko collected some larvae from fuchsias at Hattiesburg; they have been identified as L. exigua.

A TORTRICID LEAF-TIER (Platynota stultana Wlsm.)

California. H. J. Ryan (January 22): Collected on cyclamen in two nurseries in Los Angeles County and reported doing considerable damage by mining and tying the leaves together. The larvae were quite abundant on some of the plants.

A NITIDULID (Conotelus obscurus Erichson)

Mississippi. C. Lyle (February 21): Small beetles identified by J. M. Langston as C. obscurus were reported as extremely abundant in the blossoms of dahlias, asters, and chrysanthemums in a garden at Meridian, Lauderdale County, on November 4. The species was also very abundant in dahlia blossoms at State College during the fall.



COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Alabama. J. M. Robinson (February 21): The cottony-cushion scale was moderately abundant on mimosa at Dothan on November 6, 1933.

Arizona. C. D. Lebert (February 19): A few cottony-cushion scales have been found on citrus and ornamentals in the vicinity of Phoenix. Infestations seem much lighter than in previous years.

DESTRUCTOR SCALE (Aspidiotus destructor Sign.)

Florida. E. W. Berger and J. C. Goodwin (February 22): The destructor scale is moderately abundant along the lower eastern coast.

MEALYBUGS (Pseudococcus spp.)

Nebraska. M. H. Swenk (January 1 to February 15): Complaints of infestations of house plants by P. citri Risso were received during the period here covered.

California. E. O. Essig (February 27): Mealybugs are abundant in all gardens in the San Francisco Bay Region, and have been all winter.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Utah. G. F. Knowlton (February 1): Greenhouse whiteflies are damaging fuchsia and Jerusalem cherry at Yost.

ANTS (Formicidae)

Wisconsin. E. L. Chambers (February 19): Some of our florists are having unusually great inconvenience in their greenhouses because of ants, which seem to be responsible for the distribution and encouragement of the various scale insects and plant lice, principally mealybugs on peonies and begonias.

A MIDGE (Sciara inconstans Fitch)

Nebraska. M. H. Swenk (January 1 to February 15): During the period here covered, housewives complained frequently of infestations of the soil of house plants with larvae of the fickle midge and also an abundance of the adult midges in the house. These complaints were most numerous in mid-January and came from all sections of southeastern Nebraska.

ARBORVITAE

ARBORVITAE APHID (Dilachnus thujaefilinae Del G.)

Mississippi. C. Lyle and assistants (February): During January specimens of the arborvitae aphid taken from arborvitae were received from Woodland, Chickasaw County, and Clinton, Hinds County. Rather heavy infestations were reported in each instance. This aphid has been general and severe throughout the winter and late fall in the northeastern part of the State.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou.)

West Virginia. F. W. Craig (February 21): I am sending a twig from a boxwood infested with what I take to be the boxwood leaf miner, collected in the east end of the city of Charleston. (Det. W. Middleton.)

CAMELLIA

CAMELLIA SCALE (Lepidosaphes camelliae Hoke)

Mississippi. C. Lyle (February 21): Camellia japonica leaves showing a heavy infestation were received from Aberdeen, Monroe County, on February 16.

TEA SCALE (Fiorinia theae Green)

Mississippi. C. Lyle (February 21): Camellia japonica leaves showing more or less heavy infestation of the tea scale have been received during the past few weeks from Lauderdale, Amite, Copiah, and Monroe Counties.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

North Carolina. Z. P. Metcalf (February 19): The euonymus scale is unusually abundant in the eastern part of the State.

Mississippi. J. Milton (February 19): The euonymus scale is very abundant on euonymus on the old Capitol Grounds in Jackson.

NARCISSUS

A BULB FLY (Eumerus narcissi Smith)

United States. R. Latta (January 19): The species is quite common in bulb districts in California, but only one specimen had been found in Oregon, on a large bulb ranch near Portland. In 1931 one pair was collected in a greenhouse on Long Island, N. Y., by Blanton and Spruijt. During the past summer a single male was collected at Morning Sun, Iowa, by Helen Latta, from flowers near a bed of naturalized daffodils.

OLEANDER

POLKA DOT WASP MOTH (Syntomeida epilais Walk.)

Florida. J. R. Watson (December 1933): We received larvae from as far north as Daytona Beach, where they were said to be very abundant. They were sent in from Orlando, feeding on Carissa grandiflora. (February 26) Continued to be injurious to oleanders all winter. Reports have come from as far north as Daytona Beach and Clermont, in Lake County.

H. T. Fernald (February 14): Somebody from Gainesville last fall reported the injury to oleanders by the caterpillars of S. epilais Walk. var. jucundissima Dyar. This insect was also very abundant around Orlando.

Now the moths are appearing and laying their eggs and the eggs laid earliest have already begun to hatch. I raised some of the caterpillars last fall and got the adults last week and this, so there is no doubt as to what the caterpillars were. I have also raised from the same cage, which contained nothing else but sand, three flies which no doubt are parasites. (Det. by J. M. Aldrich as Achaetoneura sp.)  
E. W. Berger and J. C. Goodwin (February 22): The oleander caterpillar is moderately to very abundant in certain localities in Hillsborough, Pinalas, and Polk Counties.

#### PALM

##### PALMETTO WEEVIL (Rhynchophorus cruentatus Fab.)

Florida. E. W. Berger and J. C. Goodwin (February 22): The palmetto weevil is moderately to very abundant along the lower eastern coast, on Phoenix canariensis.

#### VIOLET

##### CYCLAMEN MITE (Tarsonemus pallidus Bks.)

Wisconsin. E. L. Chambers (February 19): We have had several complaints of injury to violets and have investigated some of these cases, which prove to be damage by the cyclamen mite forming galls in the flower stem and deforming the blossom.

### INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

#### MAN

##### MOSQUITOES (Culicinae)

Missouri. L. Haseman (February 20): Common species of mosquitoes hibernating in basements began to move out during the very springlike days of February 16 and 17 just ahead of the present cold spell.

Mississippi. G. I. Worthington (February 18): Mosquitoes were general until January 1 in buildings and other hiding places in Sunflower, Bolivar, Washington, and Coahoma Counties.

Utah. G. F. Knowlton (February 7): First and second instar mosquito wigglers were picked up yesterday in marshes at Blue Creek.

##### BEDBUG (Cimex lectularius L.)

Nebraska. M. H. Swenk (February 15): Inquiries as to the control of bedbugs, especially in chicken houses and brooders, were received during the period from January 8 to 27. These came from southeastern Nebraska.



DOG FLEA (Ctenocephalides canis Curt.)

Nebraska. M. H. Swenk (February 15): During the second week in February several inquiries were received from northeastern Nebraska, from Thurston and Douglas Counties west to Antelope and Buffalo Counties, asking about the control of fleas, presumably C. canis, in houses, barns, and hog houses.

RAT FLEA (Ceratophyllus fasciatus Bosc.)

Alabama. J. M. Robinson (February 21): Rat fleas were moderately abundant at Montgomery on November 13, 1933.

ANTS (Formicidae)

North Carolina. Z. P. Metcalf (February 19): Ants are generally abundant and / troublesome throughout the State.

Alabama. J. M. Robinson (February 21): Ants were reported on January 8 as very abundant in houses at Birmingham and on January 22 as very abundant around fruit trees at Birmingham.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Texas. E. W. Laake (January 24): One infestation of rat mites was reported during December 1933 and January 1934 at Dallas and vicinity.

Oregon and Washington. H. H. Stage (October and November 1933): The tropical rat mite has been a serious pest to C.W.A. employees in the vicinity of Olympia, Wash. They persisted on the bodies for some time and caused large welts and swellings in the neck and shoulder parts. These mites were also annoying in flop houses in Portland, Oreg., during October and November 1933.

HORSES

HORSE BOTFLY (Gastrophilus intestinalis DeG.)

Nebraska. M. H. Swenk (January 1 to February 15): A Dawson County correspondent reported prevalent trouble with the common horse bots (G. intestinalis) in his locality during the early part of January.

POULTRY

A BLACK FLY (Simulium occidentalis Townsend)

Iowa. C. J. Drake (February 19): The black fly, S. occidentalis, is pupating in Plymouth and Sioux Counties. Infestation is very heavy in Big Sioux and Black Rivers and their tributaries.

PIGEON FLY (Pseudolynchia maura Bigot)

Alabama. J. M. Robinson (February 21): Pigeon flies are moderately abundant at St. Elmo on pigeons.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Isoptera)

- Alabama. J. M. Robinson (February 21): Termites were moderately abundant at Mobile on January 1 in a dwelling and on January 8 at Selma in a church; also January 15 at Wetumpka in chrysanthemum stems.
- Mississippi. C. Lyle (February 21): Many letters have been received during the past few months complaining of injury to houses by termites.
- Nebraska. M. H. Swenk (January 1 to February 15): A Lancaster County correspondent reported an infestation of the common termite (Reticulitermes tibialis Bks. during the second week in January).
- Texas. E. W. Laake (January 24): Six infestations of termites were reported during December 1933 and January 1934 at Dallas and vicinity.

BOXELDER BUG (Leptocoris trivittatus Say)

- Illinois. W. P. Flint (February 19): Reports of annoyance by boxelder bugs usually cease by the middle of November. This winter we have had reports of annoyance from these insects during all of the winter months.
- Kentucky. W. A. Price (February 23): Clusters of boxelder bugs have appeared on buildings in Lexington, Covington, and Richmond.
- Iowa. H. E. Jaques (February 24): Boxelder bugs are thickly sprinkled over southeastern Iowa. It has been many years since they were so abundant, and our very open winter has made it easy for them.
- Missouri. A. F. Satterthwait (February 12): The boxelder bug has found frequent occasion during this winter to issue from its hibernating quarters both inside and outside of houses.
- Nebraska. M. H. Swenk (January 1 to February 15): During the warm weather of January and early February many complaints of the annoying activity of boxelder bugs in the house were received from southeastern Nebraska west to Franklin and Buffalo Counties.
- Oklahoma. C. F. Stiles (February 24): The boxelder bug has already made its appearance in some parts of the State. It was very numerous last fall.
- Utah. G. F. Knowlton (February 19): Boxelder bugs are abundant and annoying in many localities of northern Utah.
- California. A. E. Michelbacher (February 19): The boxelder bug has been present in fair numbers all winter.

EUROPEAN EARWIG (Forficula auricularia L.)

- Massachusetts. H. C. Purchase (December 11): This fall, while digging in the ground at Avon, I came across a large number of these insects, and I find that they attack dahlias, in which they seem to have quite an



interest, as they do considerable damage to these plants. They go underneath the leaves of the dahlias in the evening, and the following morning the underside of the leaf is speckled with many brown spots and in a short time the leaves wither and fall off. I also found a considerable number of them around the roots of rose bushes, and they breed around the roots of sweet williams.

California. A. E. Michelbacher (February 19): The European earwig has been quite active for some time. On the 24th of December observations made at Berkeley revealed numerous egg masses. On the 21st of January egg clusters were found with great ease, and also many recently hatched young were observed.

#### CLUSTER FLY (Pollenia rudis Fab.)

Kentucky. W. A. Price (February 23): Cluster flies have appeared by thousands in several residences in Fayette and Carlisle Counties.

#### ANTS (Formicidae)

Mississippi. C. Lyle (February 21): A grower at Bogue Chitto in Lincoln County reported on January 22 that the Argentine ant (Iridomyrmex humilis Mayr) was burrowing into the crowns of his strawberry plants. This species was also reported as very troublesome in Jackson. Ants, identified by M. R. Smith as Tapinoma sessile Say, were moderately abundant during the fall in the old Argentine ant infested area at Corinth, Alcorn County. Fire ants, Solenopsis geminata xyloni McC., were troublesome in houses at Tupelo, Lee County, on December 14, and were found in large numbers destroying woolen clothing at Mississippi State College on February 22.

Nebraska. M. H. Swenk (January 1 to February 15): The basement ant (Lasius interjectus Mayr) was the subject of many inquiries from Omaha and Lincoln citizens when the winged individuals emerged, during the period from January 6 to February 15, especially during the third week in January.

#### CLOVER MITE (Bryobia praetiosa Koch)

Colorado. G. M. List (February 20): Inquiries in regard to the clover mite entering dwellings have been very numerous during the rather open winter.

#### BEAN WEEVIL (Acanthoscelides obtectus Say)

Nebraska. M. H. Swenk (Ja

Nebraska. M. H. Swenk (January 1 to February 15): The usual number of complaints of infestation of stored navy beans with the bean weevil were received during the period here covered.

#### PEA WEEVIL (Bruchus pisorum L.)

Oregon. D. C. Mote (February 23): The pea weevil passed the winter with very little mortality.

INSECT CONDITIONS IN PUERTO RICO DURING OCTOBER 1933 - JANUARY 1934  
San Juan Plant Quarantine Office.

LEPIDOPTERA

A light infestation of larvae of Maruca testulalis Geyer was found in the lima bean pods at Caguas on January 12, 1934. (A. S. Mills.) (Det. O. Heinrich.)

Adults of Phalonia subolivacea Wlsm. were reared from flower heads of margarita at Guayama on December 25, 1933. (Det. A. Busck) (A.S.M.)

Adults of Plutella maculipennis Curtis were present in numbers on cabbage leaves at Bayamon on January 1, 1934. (Det. A. B.) (G. G. Anderson.)

A 1 percent infestation of larvae of Etiella zinckenella Tr. was found in pigeon pea pods while examining five boxes at Isabela on December 6, 1933. (Det. C. H.) (A. G. Harley.)

HOMOPTERA

Young shoots of Jasminum sp. were thickly covered by Ormenis pygmaea Fab. and O. marginata Brunn, at Mayaguez on November 24, 1933. (Det. P. W. Oman.) (A. G. H.)

A moderate infestation of Tritogenaphis ambrosiae Thos. was on the leaves of lettuce at Villalba on November 21, 1933. (Det. P. W. Mason.) (R. G. Oakley.)

One grapevine (Vitis vinifera) was rather lightly infested with Aphis illinoisensis Shimer at Mayaguez on October 13, 1933. (Det. P. W. M.) (A. G. H.)

Adults of Nezara viridula L. were common on fruit of tomato at Loiza on November 27, 1933. (Det. H. G. Barber.) (R. Faxon.)

COLEOPTERA

Several adult Diabrotica annulata Suffr. were on leaves of 5 wild cucumber vines at Villalba on October 26, 1933. (Det. H. S. Barber.) (R. G. O.)

A few adults of Galerucella varicornis Weise were on Cordia sulcata leaves at Ponce on December 5, 1933. (Det. H. S. B.) (R. G. O.)

A large number of Cerotoma ruficornis Oliv. adults were on squash leaves at Aguine on December 4, 1933. (Det. H. S. B.) (R. G. O.)

A small number of Stelidota geminata Say adults were on the fruits of orange at Ponce on December 9, 1933. (Det. E. A. Chapin.) (R. G. O.)

An adult Lachnopus coffeae Mshll. was caught on a leaf of Melia sp. at Ponce on October 30, 1933. (Det. L. L. Buchanan.) (R. G. O.)

An adult Diaprepes capsicalis Mshll. was found on a leaf of carrot at Villalba on November 21, 1933. (Det. L. L. B.) (R. G. O.)

## DIPTERA

Argyrophylax albincisa Wied. adults were numerous on banana leaves at Guayama on December 24, 1933. (Det. J. M. Aldrich.) (A. S. M.)

Adults of Lixophaga diatraeae Tns. were numerous on banana leaves at Guayama on December 24, 1933. (Det. J. M. A.) (A. S. M.)

Many Agromyza caerulea Malloch adults were reared from flower heads of margarita at Guayama on December 25, 1933. (Det. J. M. A.) (A. S. M.)

Psychodid adult, larvae, and pupae (Psychoda albipunctata Will.) were reared from a dead cockroach which was lying in a wet position at Mayaguez on October 13, 1933. (Det. Alan Stone.) (A. G. H.)

## ORTHOPTERA

Nymphs of Ellipes minuta Scudd. were common on leaves of cucumbers at Caguas on November 17, 1933. (Det. A. N. Caudell.) (C. G. A.)

## INSECT CONDITIONS IN COSTA RICA OCTOBER 1 - December 31, 1933

C. H. Ballou, San Jose, Costa Rica.

(Unless otherwise indicated, observations were made at San Pedro de Montes de Oca.)

## COCCIDAE

Aulacaspis pentagona Targ. was very abundant and severely damaging peach during the time here covered, and observed damaging Diospyros virginiana and Hibiscus mutabilis. This scale was observed on peach at Gaudalupe, at San Ysidro de Coronado, and at Paso Ancho de Sebastian in late November and early December.

Pseudococcus citri Risso was noted as damaging mandarin and orange during the time here covered and during December was observed in injurious numbers on coffee.

Saissetia hemisphaerica Targ. was noted in damaging numbers on Diospyros kaki the last of October. The scale was being attended by Solenopsis geminata Fab.

Chrysomphalus dictyospermi Morg. was noted in damaging numbers on rose at Chapui on October 8. The scale was very abundant on and injurious to orange the middle of December.

## APHIDIIDAE

Toxoptera aurantiae Boyer damaged orange during the entire period.

Aphis spiraeicola Patch was appearing in injurious numbers on orange the last of December. All stages were present.

Aphis pomi DeG. was noted as injurious to quince on November 28, 1933.



The chermid Freysuila ernstii Schwarz was observed in injurious numbers on Caoba (Guara caoba) the first of October, when all stages were present. On October 10 the trees were sprayed with water, which removed the waxy coating of nymphs, giving about 98 percent control.

#### MISCELLANEOUS HOMOPTERA

Membracis mexicana Guer. was present in injurious numbers during the period here covered, guapinol (Hymenaea courbaril), guachipelin (Diphysa robinoides), soursop, and coffee being attacked. Egg scars in coffee trees were very numerous the last of December at Guadalupe and at San Francisco de Los Rios, as well as at San Pedro de Montes de Oca.

Aconophora pallescens Stal was observed damaging quince on December 26, at which date all stages were present.

Antianthe expansa Germ. was noted damaging eggplant and pepper (Capsicum annuum) during the middle of November. It was also very abundant on and injurious to pepper at Paso Ancho de San Sebastian the first of December.

#### HEMIPTERA

Collaria oleosa Dist. was observed in injurious numbers on various grasses during the period here covered.

Halticus canus Dist. was noted damaging Phaseolus vulgaris during November.

Stenomacra marginella H. S. was observed in injurious numbers on Persea americana and P. drymifolia.

Cryptopeltus notatus Dist. was observed on tomato at Paso Ancho de San Sebastian as well as at San Pedro de Montes de Oca during December.

Leptoglossus zonatus Dall. was noted damaging asparagus during October and tomato during December.

#### COLEOPTERA

Cerotoma rogersi Jac. injured soybean during the period here covered.

Epilachna virgata Muls. was noted as very injurious to dama (Citharexylum caudatum) during the last of October.

Epitrix fuscata Jac.-Duv. was injurious to potato during late October and was destroying the tomato crop by the middle of December. The beetle was also observed on tomato at Paso Ancho de San Sebastian on December 10.

Diabrotica nummularis Harold was damaging tacaco (Polakouskia tacaco) during the middle of October. The beetle was observed ruining roses at Chapui on October 8.

Nodonota lateralis Jac. was noted as destructive to dahlia at Paso Ancho de San Sebastian on October 14. N. irazuensis Jac. was present in injurious



numbers during the period here covered, attacking corn, soybean, guava, beans, zinnia, camellia, bottle bush (Callistemon lanceolatus) and murta (Calyptranthes costaricensis). It was observed at San Ysidor de Coronado and Paso Ancho de San Sebastian, as well as San Pedro de Montes de Oca.

The scarabaeid Gymnetis liturata Oliv., which scars fruit stems to suck the juice, was observed damaging avocado on December 16.

#### LEPIDOPTERA

Jocara claudalis Mosch. and J. subcurvalis Schaus appeared in injurious numbers on Persea americana during October and December. Damage by J. claudalis was also observed at Paso Ancho de San Sebastian during December.

Stenoma sororia Zell. was observed injuring Persea americana during the time covered by this report.

Caterpillars of Halisidiotia underwoodi Roths. were observed injuring plum (Prunus cerasifera var. pissardi) on December 14.

Caterpillars of Leucinodes elegantalis Guen. were destroying a large part of the fruit of the tomato tree all during the month of October.

#### ORTHOPTERA

A tettigoniid, Cocconotus rarus Rehn, was present in injurious numbers during the period here covered. Cabbage, dracena (Corydiline terminalis, and Dracaena fragrans), geranium (Pelargonium sp.), granadilla (Passiflora ligularis), Miltonia andresii, vaguita (a handsome orchid), and coffee were being attacked. On November 27 it was observed injuring coffee at San Francisco de Dos Rios.

#### DIPTERA

Maggots of Anastrepha striata Schin. were observed on November 18 ruining the fruit of guava.

#### INSECTS COLLECTED AT VICOSA, MINAS GERAIS, BRAZIL

By E. J. Hambleton

Escola Superior de Agricultura e Veterinaria, Vicosa, Minas Gerais.

#### COLEOPTERA

Nodonota granosa Lef. ? (new to U.S.N.M.) was found attacking sunflower on March 5, 1932. (Det. H. S. Barber.)

Stephanoderes braziliensis Hopk. was found attacking quince on March 4, 1932 (Det. M. W. Blackman) and attacking Mandioc on June 6, 1933.

Xyleborus affinus Eichh. was attacking palm on May 19, 1933. (Det. M. W. B.)

Haptonchus luteolus Er. was attacking citrus fruit on July 23, 1933. (Det. E. A. Chapin.)

Gnathocerus cornutus Fab. was attacking corn on Feb. 10, 1933. (Det. E. A. C.)

Europs sordidus Grouv.(?) was attacking citrus fruit on July 23, 1933. (Det. W. S. Fisher.)

Litargus tetraspilotus Lec. was attacking citrus fruit on July 23, 1933. (Det. W. S. F.)

#### HEMIPTERA

Nysius ellipticus Berg. was attacking sunflower on March 5, 1932. (Det. H. G. B.)

Asthenidea clara B. White was attacking citrus fruit on July 23, 1933. (Det. H. G. B.)

#### PARASITIC HYMENOPTERA

Anastatus punctiventris (Ashm.) was attacking Orthoptera eggs on August 20, 1932. (Det. A. B. Gahan.)

Trichaulus piliventris (Mayr) was collected August 30, 1931; specimens found attacking curculionid larvae. (Det. A. B. G.) (This parasite is one of the Idarnines which are all supposed to be parasites of fig insects, i. e.; Agaonidae. A. B. G.)

Eupelmus coccidivorus Gahan was attacking Ceroplastes sp. on May 22, 1933. (Det. A. B. G.)

Trichogramma minutum (Riley), dark race, were collected on Diatraea eggs on May 4, 1932. (Det. A. B. G.)

Spilochalcis immaculata Cress. was collected on Alabama argillacea on May 10, 1931. (Det. A. B. G.)

Eupelmus cushmani Cwfd. was collected on Alabama argillacea from Mar. - June, 1931 - 33. (This parasite is active from March until June.) (Det. A.B.G.)

Specimens of Hemiteles n. sp. were found attacking Alabama argillacea larvae from March to June, 1931. (Det. R. A. Cushman.)

Hemiteles n. sp. was found attacking Alabama argillacea Hbn. larvae from March to June, 1932. (Det. R. A. C.)

Eucoilidea sp. was found attacking the cabbage leaf miner on July 10, 1932. (Det. L. H. Weld.)

Idechthis canescens Grav. specimens were found attacking noctuid larvae on February 15, 1932. (Det. R. A. C.) (The breeding records look doubtful. This species is normally parasitic on stored-product pests such as Ephestia kuehniella Zell. R. A. C.)

Copidosoma truncatellum (Dalm.) was found attacking lepidopterous larvae June 29, 1933. (Det. A. B. G.)

Ophion ancyloneura Cam. specimens were found attacking curculionid larvae on March 15, 1930. (Det. R. A. C.) (A very peculiar host for an Ophion, R. A. C.)

Hadronotus brasiliensis Lima was reported attacking pentatomid eggs on March 21, 1933. (Det. C. F. W. Muesebeck.)

INSECT CONDITIONS IN EGYPT DURING NOVEMBER 1933 -- FEBRUARY 1934

By Arthur H. Rosenfeld

Botanical and Plant Breeding Section, Ministry of Agriculture,  
El Giza, Egypt.

The peasants of the Kharga and Dekhla Oases complained that the weevil Tanymecus musculus Fahr. was gnawing stems of barley and wheat; it was controlled with poisoned bran used for grasshoppers. Feb. 4, 1934.

The spiny bollworm (Earias) attacked cotton this past year more severely than usual, infestations as high as 12 percent being common around Bilkas, Sherbin, and Abu Masoud, all in Bihera Province. Feb. 4, 1934.

Dr. Ismail Fahmy, in charge of borer investigations for the Ministry, reports that he has found Pyrausta nubilalis Hbn. on maize at Fakous, Ikyad, and Samaana, all in Sharkia Province, an infestation of 10 to 15 percent. (Feb. 4, 1934.)

Pyrausta nubilalis Hbn. was reported by Entomologist Ismail Fahmy on December 25, 1933, as infesting about 3 percent of the maize at Rosetta and Port Said, thus greatly extending the known eastward range of the European corn borer. No reports of infestation by this insect have been made in Palestine. Fahmy has recently made a systematic search for it, starting from Mansoura to Kafr-el-Arab on the east side of the Damietta branch of the Nile, and from Talkha to Kafr-el-Battikh on the west side. On the east side he found the first infested area at Mahalet Inshak (about 12 miles north of Mansoura) and from there northwards an infestation ranging from 2 to 10 percent. On the west side he found it in all the area examined, infestation ranging from 2 to as high as 20 percent. The highest infestation was around Markaz Sherbin, this area averaging about 15 percent.

Eriosoma lanigerum Hausm. was collected on apples from Assiut on November 15, 1933.

We have two borers, Sesamia cretica Led. and Chilo simplex Butl., neither of which has done much damage this year, except in one locality where old corn stalks were piled up for sale during the winter in the midst of cane fields and thus were afforded ideal hibernating conditions. Collected November 15, 1933.

Anacridium aegyptium L. early in October attacked some cotton fields at Ezbet Khourshid, near Alexandria, where it was controlled, according to the Entomological Section, by hand picking in the early morning, no serious damage occurring. In Assiut Province, Upper Egypt, this species has the habit of collecting in large numbers in the fall in orchards and on high ground, but only a few were observed in October 1933, the Government entomologists.



attributing this to previous annual campaigns against them. Incidentally another locust, Locusta migratoria L., is reported to have assumed considerable importance in the Sudan. (Reported December 25, 1933.)

Our main cane insects are the two Pseudococcus--P. calceolariae Mask. and P. boninsis Kuw. In former years they have caused much damage, but have been but little in evidence this past year, possibly owing to the record breaking heat last June, when the maximum in the shade in the Upper Egyptian cane fields was very frequently about 115 degrees and several times approached 120, and also to the ravages of coccinellids, which right now (Nov. 15, 1933) are very abundant.

Incidentally a cane pest, Aphis maidis Fitch has been destructive to late maize this season (1933), in many cases the tassels having been so seriously damaged as to interfere with pollination. The attack was most notable during the last weeks in October and the first of this month, and one of our entomologists told me yesterday that he estimated a loss of around half a million bushels of corn in Egypt as a result of this insect's attack. Natural enemies appear to be particularly scarce this year, although coccinellids and syrphids are now (November 15, 1933) getting in some good work.

Aphis laburni Kalt. reported on Phaseolus and other beans on November 15, 1933.

Aphis compositae Theob. on Cestrum sp. from Giza on November 15, 1933.

Myzus braggii Gill. on artichokes from Giza on November 15, 1933.

Hyalopterus arundinis Fab. and H. insignis Theob. reported on bamboo from Giza November 15, 1933.

Chaitophorus populi L. on white poplar at Giza November 15, 1933.